THE NIGERIAN RICE ECONOMY IN A COMPETITIVE WORLD: CONSTRAINTS, OPPORTUNITIES AND STRATEGIC CHOICES

Strategy for rice sector revitalization in Nigeria

August 2003

Acknowledgement

The views expressed here are the outcome of a rice sector study implemented by WARDA and were discussed with, and endorsed by, selected Nigerian rice stakeholders gathered at a technical workshop 20-21 August, 2003 in Ibadan.

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About WARDA – The Africa Rice Center

The West Africa Rice Development Association (WARDA) – The Africa Rice Center was formed as an autonomous intergovernmental research association in 1971 by 11 countries, with the assistance of the United Nations Development Programme (UNDP), the Food and Agriculture Organization of the United Nations (FAO), and the Economic Commission for Africa (ECA). Today, the Association comprises 17 member states: Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. Since 1987, WARDA has also been a member of the Consultative Group on International Agricultural Research (CGIAR), a network of 16 international research centers supported by more than 50 public- and private-sector donors.

WARDA's mission is: to contribute to food security and poverty alleviation in poor rural and urban populations, particularly in West and Central Africa, through research, partnerships, capacity strengthening and policy support on rice-based systems, and in ways that promote sustainable agricultural development based on environmentally sound management of natural resources. WARDA's research and development activities are carried out in collaboration with the national agricultural research systems of members states, academic institutions, international donors and other organizations, to the ultimate benefit of West and Central African farmers—mostly small-scale producers—who cultivate rice, as well as the millions of African families who eat rice as a staple food.

WARDA has its headquarters in Côte d'Ivoire and regional research stations near St-Louis, Senegal, at the International Institute for Tropical Agriculture (IITA) in Ibadan, Nigeria, and at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) research station at Samanko, near Bamako, Mali.

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Table of contents

1	Intro	ductionduction	1
2		lenges and features of the Nigerian rice sector	
	2.1	A set of challenges	
	2.2	A dynamic demand for rice	
	2.3	A market oriented crop production	5
	2.4	A constrained processing and marketing chain	6
	2.5	An imperfect stakeholder dialogue and policy formulation	7
3	Rice development strategy		8
	3.1	Strategic objectives	8
	3.2	Agricultural and rice trade policy considerations	
	3.3	Strategic priorities	9
	3.3.1	Improving quality management along the commodity chain	9
	3.3.2	Increasing efficiency along the commodity chain	10
4			
	4.1	Institutional aspects	
	4.2	Implementation process	11
5	Conc	lusionlusion	12
References			13
A	nnex 1	Proposed activities	14

1 Introduction

The Nigerian rice sector has seen some remarkable developments over the last quarter-century. Rice consumption in Nigeria has vastly increased since the 1970s and this has triggered a surge in rice imports in the 1980s. Rice imports became an important share of Nigerian agricultural imports and foreign exchange needs, whereas rice became a structural component of the Nigerian diet. This made rice a highly political commodity in Nigeria. The Nigerian government imposed a ban on rice imports in 1985 with the aim to rely exclusively on domestic production to match the increasing demand. The import ban resulted in an initial supply response, but eventually the supply leveled off. In 1995 the import ban was lifted within a globalisation context. This resulted in a rapid surge in imports, despite subsequent increases in tariff levels (Figure 1). This made a strategy to limit the rice deficit within an open economy imperative.

The present document presents a strategy for the revitalization of the rice sector in Nigeria. The strategy is the outcome of a rice sector review commissioned to WARDA by USAID (Box 1) and was discussed with, and endorsed by, selected Nigerian rice stakeholders during a technical workshop 20-21 August, 2003 Ibadan.

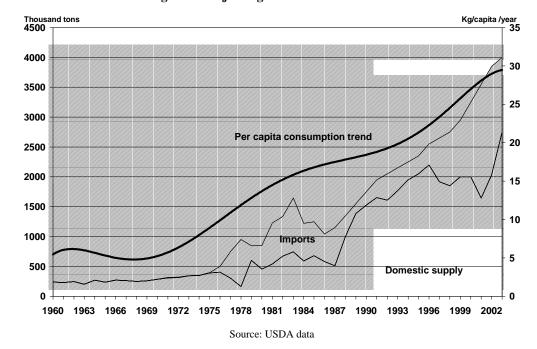


Figure 1 Major Nigerian rice sector trends

The Nigerian rice economy in a competitive world: Constraints, Opportunities and strategic choices

Strategy for rice sector revitalization in Nigeria

Box 1 Towards the formulation of a strategy for the rice sector in Nigeria

In 2000 US-AID and WARDA agreed upon the need to undertake a rice sector review in Nigeria. This need was based on a shared concern about the constant increase in rice imports following the removal of the rice import ban and its potential negative impact on Nigerian rural livelihoods and the lack of a clear picture on the evolution of the rice economy.

The project entitled 'The Nigerian rice economy in a competitive world: Constraints, Opportunities and strategic choices' was funded by US-AID and implemented by WARDA in partnership with NISER. The objectives of the project were:

- To provide an up to date analysis of constraints and opportunities for rice development in Nigeria.
- To develop a strategic plan for a sustainable development of the Nigerian rice sector.

The project was implemented along two components:

- Research component
 - Analysis and compilation of available information.
 - o Review of the literature
 - o State of the art paper (Akpokodje et al., 2001)
 - Complementary studies to fill up knowledge gaps.
 - o Producer survey (Erenstein et al, 2003)
 - o Processing survey (Lançon et al, 2003a)
 - o Consumer survey (Lançon et al, 2003b)
 - o Irrigation study (Kebbeh et al, 2003)
 - o Price integration study (Akande & Akpokodje, 2003)
- Policy dialogue
 - To develop a shared vision of rice development issues in Nigeria.
 - Consultation meeting of rice stakeholders in November 2001 (NISER & WARDA, 2001)
 - To lay the ground for the implementation of the strategy.
 - o Review meeting with rice stakeholders in August 2003 (WARDA, 2003)

2 Challenges and features of the Nigerian rice sector

The present section characterizes the context of the current rice sector in Nigeria. First in terms of challenges and subsequently in terms of specific features that pose constraints and offer opportunities for its development.

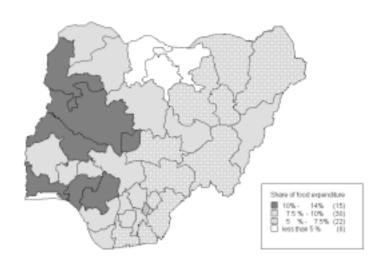
2.1 A set of challenges

- Nigeria has experienced a rapid growth in rice per-capita consumption during the last three decades, from 5kg in the 60's up to 25kg in the late 90's.
- The successive programs launched to increase rice production have not been able to reduce the rice deficit.
- The imposition of a rice ban on rice imports from 1985 to 1995 and the ensuing increase in the relative price against other major staples has boosted rice production mainly through area increase while yield level reached a plateau in 90's before declining.
- In spite of the relative increase in rice price, per capita consumption maintains its upward trend, although at a lower pace. However, it shows that rice has become a structural component of Nigerian diet with low price elasticity. Rice is an ordinary good.
- Past policies didn't succeed in securing a market share for local rice producers and imports increased rapidly since the lift of the import ban and in spite of successive increases in tariff from 50% to over 100%. Rice import represents more than 20% of agricultural import and half of the total consumption.
- Nigeria is becoming one of the major rice importers on the world market for the last five years, thus being an important outlet for rice exporting countries. Beyond its large volume, the Nigerian rice market is even more attractive than other West African markets because Nigeria imports rice of high value (parboiled rice) against rice of lower quality in the other countries of the sub-region.

2.2 A dynamic demand for rice

- Rice is a consumer good.
 - Wide dissemination of rice consumption across the country. Even if it represents a higher share of food expenditure in the Western and West-South part of the federation, it is consumed nation-wide (Figure 2).
 - A competitive market for local and imported rice.
 - Imported rice is available in rural areas and even in rice producing areas.
 - Local rice is still purchased by urban consumers, although with a higher frequency in the traditional rice eating states (e.g. Niger, Kaduna, FCT).

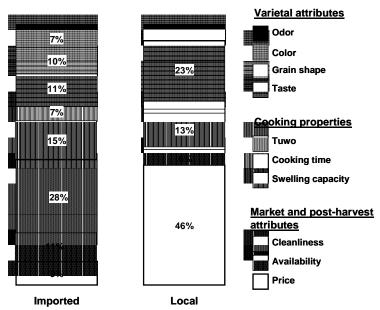
Figure 2: A wide spread consumption across the country



Source: Based on FOS data (1995)

- Price reward to quality.
 - Although imported rice is on average 30% more expensive than local rice, many consumers still prefer to buy imported rice because it is cleaner and has a better appearance.
 - O Consumers still purchase local rice because it is cheaper and because of its organoleptic quality (Figure 3).

Figure 3: Consumers criteria for purchasing imported or local rice



Source: Imported Rice retailing and purchasing survey

The Nigerian rice economy in a competitive world: Constraints, Opportunities and strategic choices

Strategy for rice sector revitalization in Nigeria

2.3 A market oriented crop production

- Rice is a cash crop.
 - o Produce marketing is the main motivation for rice farmers even in areas where rice is also a traditional component of the diet.
 - o On average, 80% of the production is commercialized.
 - o Rice is considered as a main source of food by a minority of rice producers.
- Rice is the prime income source for rice farmers.
 - o Rice generates the largest contribution to rice producer household income.
 - o Rice farmers allocate a substantial share of their resources to rice (land, labor, working capital).
- A variety of rice production systems and technological levels coexist.
 - o Constraints and opportunities vary over systems.
 - Lowlands without water control are the main ecology, followed by upland and irrigated rice.
- Rice production can be found in each of the large geopolitical zones of the nation.
 - o Rice production tends to be particularly widespread in certain geographic regions (e.g. Middle belt) based on ecology and ethnic traditions (Figure 4).
 - Where rice production is established, it tends to be widespread within the community.
 - o Based on their location, rice producers are variously exposed to rice consumer markets and competition from rice imports.

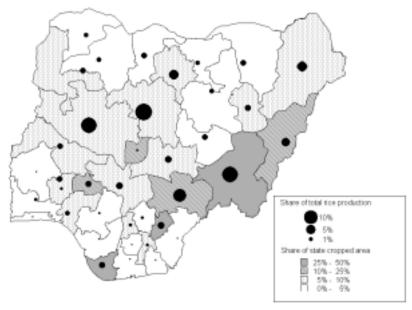


Figure 4: Rice production across Nigeria

Source: Based on PCU data 1999,2000

The Nigerian rice economy in a competitive world: Constraints, Opportunities and strategic choices

Strategy for rice sector revitalization in Nigeria

- Only limited contribution of irrigated rice.
 - o Underutilization of existing irrigation infrastructure.
 - A persistent yield gap and underperformance of irrigated rice compared to other countries in region.
 - o Problematic operation & maintenance.
- Market orientation opens prospects of using external inputs to increase productivity and ensure sustainability.
 - o Farmers are willing to invest in productivity enhancing technologies.
 - o External input use for rice is widespread particularly fertilizers and herbicides.
 - o Input use is sustained even after subsidies where removed.
 - Mechanization is common in floodplains.
- Relatively limited and variable returns to rice production.
 - o Low yields average 1.9 MT paddy per ha.
 - o Very high labor costs.
 - o Limited dissemination of improved varieties in recent years.
 - o Production costs approximate current local produce price.

2.4 A constrained processing and marketing chain

- A basic processing technology.
 - o Processing consists of parboiling and milling typically by different agents.
 - o Limited dissemination of improved processing technology.
 - o Low quality of processed output.
 - o High costs of energy for parboiling.
 - o Typically cottage industries.
- Limited incentive for improving processing technology.
 - o Processing typically done by service provider without processor having control nor stake in quality of raw material and end-product.
 - o Processing as a service remains profitable.
- Limited consideration given to rice quality issues.
 - Given the price spread between clean imported rice and local rice and the cost of improved processing technology (destoning) it is potentially profitable to invest in improved technology.
 - O However, the management of the paddy and rice quality along the production, marketing and processing chain is confronted to the division of tasks among different individuals which hinder quality management and disperse quality reward.
 - o Farmers and processors (parboilers, millers) are not fully aware of the issue or are not able to invest in improved technology to improve quality.

- A number of market failures.
 - o High transaction costs due to the lack of standardization (quality, measures and terminology).
 - Local rice market structure hinders economies of scale in trading and retailing activities which results in a riskier business environment compared to the imported marketing chain.
 - High price of imported rice creates a market segment for local rice of low quality.
 - O Development of a high quality local rice market segment is hampered by image problem and distrust which reduce incentives for investing in quality.

2.5 An imperfect stakeholder dialogue and policy formulation

- Room for improvement in information and decision making mechanisms.
 - o Information is available but scattered and does not necessarily reach decision makers.
 - o Repeated cycles of policy formulation exercises with limited impact.
 - O High instability in policy orientations make for a risky business environment and reduce incentives for investment and adaptation by private sector agents.
 - o Lack of participation of stakeholders in policy formulation results in too much of a top-down technocratic approach.
 - o Imperfect research-extension-farmer linkages.

3 Rice development strategy

In view of the rice sector characteristics, the development of the rice sector offers potential opportunities for the Nigerian economy. In particular it provides an opportunity to generate income and employment in rural and urban areas and thereby revitalize local economies. Still, the development of the rice sector needs to carefully balance the interests of rice producers and rice consumers so as to come up with the most socially efficient and acceptable solution for the nation.

3.1 Strategic objectives

Within an overall context of progressing towards self-sufficiency in rice, the strategy aims:

- to increase the capacity of the Nigerian rice sector to compete with imported rice in terms of quality and price.
- to enhance the market share of local rice in the Nigerian rice market.

3.2 Agricultural and rice trade policy considerations

The strategy is specifically developed for the rice sector but takes into account the larger macroeconomic context and agricultural policy of Nigeria. Thus, the implementation and the relevance of the proposed strategy depends on the general orientation of the agricultural policy.

Rice trade policy is one specific variable that requires particular attention:

- Trade policy should not be considered as the only response to current rice sector constraints
 (i.e. low competitiveness, low price on world market), but as one element within a larger
 development strategy with accompanying measures. Should be viewed as temporary and
 playing facilitating role for the implementation of the measures to ensure the needed
 structural changes in the rice sector to enhance competitiveness.
- 2. Maintenance of some degree of rice protection is needed now because:
 - need for stability in price structure to facilitate investment decisions of economic agents in rice sector.
 - rice sector is not yet competitive with imported rice at current world price levels. Still, protection level would be regularly reviewed and adjusted as necessary based on:
 - world price evolution.
 - gain in local productivity and competitiveness from production to processing and marketing.
- 3. Rice imports should not be banned, as they provide a competitive environment needed to continuously mobilize innovation and entrepreneurship for the development of the rice sector.
- 4. Some intervention in rice trade is preferable over input subsidies. This is better targeted and induces less market distortions.

3.3 Strategic priorities

- Imported rice can be found in most of the urban markets and an increasing number of rural markets throughout the country. Consumers prefer to buy imported rice when they can afford it due to its better quality.
- Local rice is less competitive than imported rice due to:
 - (i) Lower quality; and
 - (ii) High production, processing and marketing costs.
- The current level of protection of the domestic rice sector ensures that local rice still has a significant market share despite the lower quality and high costs. In an opening economy the quality of the local rice will be a critical component to ensure its competitiveness and to guarantee rewards to investments in productivity improvement. Therefore, this strategy acknowledges the synergy between quality enhancement and productivity increase to ensure the sustainable development of the Nigerian rice economy.
- The strategy proposes a dual simultaneous approach to resolve the competitiveness gaps:
 - o Address quality gap:
 - To increase local rice market share.
 - To capture current reward to quality.
 - To revitalize the most promising components of the rice sector.
 - To restore incentives for investment in improved technology.
 - o Address efficiency gap:
 - To increase efficiency of rice production (land, labor and capital productivity).
 - To increase efficiency of rice processing and marketing.
 - To reduce cost of local rice.

3.3.1 Improving quality management along the commodity chain

- Sensitization of stakeholders on quality issues.
- Improving the quality and homogeneity of paddy at the farm level.
 - o To reduce mixing of varieties which adversely affects the processing and thereby the quality of the rice produced.
- Improving rewards to quality at all stages of the marketing chain.
 - o Promote establishment of transparent and accepted grading system
 - o Information dissemination on prices and the price reward for quality to enhance bargaining power for rice farmers and traders.

- Improving processing technology.
 - o Training on improved parboiling methods.
 - o Dissemination of improved small-scale milling technology.
 - O Dissemination of destoners and establishment of mechanisms to enhance their collective use.
 - o Promote packaging and branding of local high quality rice.

3.3.2 Increasing efficiency along the commodity chain

At producer level:

- Dissemination of improved varieties to increase yields (upland; lowland; irrigated)
 - o Promote use of new high yielding improved varieties to replace varieties introduced earlier and traditional varieties.
 - o Promote regular seed renewal.
- Dissemination of improved cultural practices to enhance yield and reduce production costs (lowland; irrigated).
 - o Promote appropriate water management at field level (including bunding) as necessary condition for intensification.
 - o Promote integrated crop management to enhance input use efficiency and productivity.
- Dissemination of appropriate labor-saving technologies to reduce production costs.
 - o Promote use and more efficient use of herbicides (upland; lowland; irrigated).
 - Promote small-scale mechanization of post-harvest operations at farm level (threshing and cleaning) (lowland; irrigated)

At processing and marketing level

- Dissemination of fuel-efficient parboiling techniques.
- Support local rice retailing and trade expansion by facilitating access to working capital.
 - o To enable the increase in size of operations.
 - o To improve regularity of supply.
 - o To facilitate entry of new operators in the market to increase competition.
- Promoting standardization to reduce transaction costs.
 - o Units & grades.
 - o Terminology (e.g. correspondence between rice and paddy names and their attributes).

4 Strategy implementation

The rice development strategy can be variously implemented to achieve the strategic priorities. The present strategy does not intend to prescribe any specific set of activities within the context of these priorities, but some suggestions of potential activities are outlined in Annex 1 for the development of an action plan and related project proposals formulation. However, for the proposed strategy to be successful, certain aspects of its implementation merit attention. The present section therefore pays particular attention to the institutional aspects and the implementation process.

4.1 Institutional aspects

- Reinforce policy dialogue amongst rice stakeholders.
 - O To enable rice stakeholder participation in decision making with a particular focus on the respective roles of the private sector and the government.
 - o To create ownership of development process and strategy.
 - o To increase transparency and accountability of various institutions involved.
- Building capacity of rice stakeholders (including processors, traders).
 - O Support emergence of and reinforce stakeholder organization by institutional strengthening:
 - To enable more proactive role.
 - To ensure more adequate representation of stakeholders by their organization.
 - To target professional objectives not political.
 - Training of stakeholders on rice commodity chain issues to enable more focused participation.
- Enhance coordination and monitoring mechanisms.
 - o Reinforce coordination of rice sector interventions to avoid duplication, to reinforce visibility and to draw lessons from previous experiences.
 - o Enhance monitoring of the rice sector developments.
 - To feedback information on changes affecting the rice sector to increase transparency and support decision making.
 - To measure impact to enhance accountability.

4.2 Implementation process

- Given the magnitude of the challenge a long term view (at least five years) is needed.
 - Although certain activities can have a short term impact, many will require implementation over a prolonged period and an even longer period before the full benefits can be achieved.
 - There is a need for political commitment at various levels and continuity and stability in the policy environment.

- Given the diversity and complexity of the rice sector the interventions should focus initially on the most promising systems/locations.
 - o To evaluate feasibility of and fine-tune proposed interventions as there is no 'silver bullet' or ready made solution.
 - o To build expertise prior to scaling up as the rice sector development process is complex requiring learning by all concerned.
 - o To avoid dilution of effort and facilitate coordination and implementation.
- Start with rice specific development interventions
 - o Rice sector has a number of urgent and rice specific problems that need to be addressed for the development strategy to be successful.
 - Non-rice specific interventions (e.g. in relation to infrastructure, input markets, credit) are important, but are likely to diffuse attention and reduce likelihood of impact of strategy implementation.
 - O Stakeholder organizations should lobby for non-rice specific interventions to be taken into account by the overall agricultural policy.

5 Conclusion

There are considerable opportunities to revitalize the Nigerian rice sector. The current level of protection of the domestic rice sector provides an opportunity for such development. However, such a protection comes at a considerable social cost and therefore should be seen as a temporary transient measure. The only sustainable and socially acceptable way forward is to enhance the competitiveness of local rice against imported rice – both in terms of quality and price. This calls for improving quality management and increasing efficiency along the entire marketing chain. The proposed strategy can be successful – but implies changing business as usual and calls for some innovative approaches and partnerships and an overall enabling environment for such an investment and adjustment to occur.

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Annex 1 Proposed activities

The present annex proposes a number of activities that could be included and further developed within a subsequent action plan to implement the proposed strategy. Where possible, the activities should link to already on-going or planned programs and/or projects. The activities presented here were discussed with selected rice stakeholders at the technical workshop 20-21 August 2003 and selected based on their potential merit to be developed.

Rice sector wide activities

- Establish a rice stakeholder platform for policy dialogue
 - To ensure political commitment for the implementation of the strategy and increase stakeholder participation in policy dialogue and decision making processes.
 - Platform could take form of a rice network with a regular information exchange forum
- Training of rice stakeholders for capacity building & organizational strengthening
 - o Training on assessment of rice development issues.
 - o Training on organization management, effective participation and lobbying.
- Development of information system
 - o To improve stakeholder knowledge and access to information.
 - O Types of information covered could include rice quality grades; varietal attributes/terminology; market information; information on rice processing equipment (sources, prices, types, etc); relevant material on rice sector.
- Rice development fund within existing financial system.
 - o To facilitate investments in new rice processing technology/equipment
 - o Emphasis is on investment, not working capital. Still, fund could facilitate access to other (formal and informal) institutions to provide working capital

Quality related activities

- National awareness campaigns.
 - Sensitization of producers, processors, traders and consumers on quality (including quality aspects/management and quality rewards).
 - To promote Nigerian rice and enhance its trade image.
 - To enhance quality management along marketing chain.
 - o Use of both mass-media (radio, tv, newspapers) and targeted media.
- Improve farmer to market linkages.
 - o Enhance grading system of paddy and rice quality.
 - o Development of market niche for high quality local rice
 - On pilot basis develop contract between farmers and traders/processors to supply large rice users (eg selected hotel/restaurant/catering) to restore reputation of local rice.

- Enhanced quality management practices.
 - o Training on modern appropriate small-scale processing methods (parboiling and milling technology, destoners).
 - o Increase homogeneity of paddy starting at farm level (includes homogeneity of seed and post harvest handling of varieties to prevent mixing).
 - Harmonisation and enforcement of rice quality standards taking into account rice traders' current practices.

Production related activities

- Dissemination and fine-tuning of improved production technologies.
 - Dissemination of improved varieties and seed renewal practices, including seed network.
 - Dissemination and adaptation of improved cultural practices, including appropriate water management at field level and integrated crop management practices in lowland and irrigated systems.
 - Adapt irrigated rice technologies that have been successful in similar environments in other Sahel and Sudan Savanna regions (eg. Senegal, Mali, Mauritania).
 - o Dissemination of appropriate labor-saving technologies, including herbicides and small-scale mechanization of post-harvest operations.
- Optimisation of water allocation and flood control along major river basins to improve rice production on flood plains by involving River Basin Development Authorities.
- Enhance performance existing operational irrigation infrastructure before rehabilitating or expanding irrigation infrastructure.
 - o Capacity building to enhance operation and maintenance.